

## Exercise Sheet 4: Structuring Research

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Please prepare exercise 4.3 for the exercise session on 2019-05-14.

**Exercise 4.1.** Find and read “The Complexity of Theorem-Proving Procedures” by Stephen Cook.

1. Summarise the paper in two sentences.
2. Where and when was the paper published?
3. Who are the authors, and what are their affiliations?
4. What is the research question studied? Which solutions are proposed? How is the paper structured? What are the main contributions of the paper?
5. What are the strong points of the work? What are the weak points?
6. What did you find hard to understand? Which further information do you need?
7. Do you know any papers that show similar results?

**Exercise 4.2.** For each of the papers, answer these questions: What are the hypotheses studied by the authors and how do they evaluate their hypotheses? Is the evaluation methodology adequate? Try to read only as much as you need to answer.

1. Georg Gottlob, Christos H. Papadimitriou (2003). On the complexity of single-rule datalog queries. *Inf. Comput.* 183(1): 104–122.
2. Yeh, R. W. et al. (2018). Parachute use to prevent death and major trauma when jumping from aircraft: randomized controlled trial. *BMJ* 2018;363:k5094.
3. Colpaert P., Verborgh R., Mannens E. (2017) Public Transit Route Planning Through Lightweight Linked Data Interfaces. In: *Proc. Int. Conf. Web Engineering. ICWE 2017. LNCS*, vol 10360. Springer.
4. Stumme, G., Taouil, R., Bastide, Y., Pasquier, N., & Lakhal, L. (2002). Computing iceberg concept lattices with TITANIC. *Data & Knowledge Engineering*, 42(2), 189–222.
5. Vrandečić, D., Krötzsch, M., Rudolph, S., & Lösch, U. (2010). Leveraging non-lexical knowledge for the linked open data web. In: *Rev. Apr. F. D. Trans.* 5: 18-27.

**Exercise 4.3.** (Homework)

Read the introduction of each of the following papers. How does the “story” evolve over the different versions of the paper? How do structure, presentation, and contributions change?

1. E. V. Kostylev, J. L. Reutter (2013). Answering counting aggregate queries over ontologies of the DL-Lite family. In: *Proc. 27th AAAI Conf. on Artificial Intelligence. AAAI.*
2. E. V. Kostylev, J. L. Reutter (2013). Complexity of Answering Counting Aggregate Queries over DL-Lite. In: *Proc. 26th Int. Workshop on Description Logics. CEUR Workshop Proceedings 1014. CEUR-WS.org.*
3. Egor V. Kostylev, Juan L. Reutter (2015). Complexity of answering counting aggregate queries over DL-Lite. *J. Web Semant.* 33: 94-111